REMARKS

Amendments to the Claims

Claims 1-3, 6, and 8-10 are currently pending. Claim 1 has been amended. Claims 11, 12, 16 and 17 were previously canceled without prejudice or disclaimer. Claims 13-15 and 18-25 have been canceled without prejudice as drawn to a non-elected invention.

Claim 1 has been amended to recite that RANBP2 comprises SEQ ID NO: 1. Support for the amendment can be found throughout the specification.

The claim amendments are made solely in an effort to advance prosecution and are made without prejudice, without intent to acquiesce in any rejection of record, and without intent to abandon any previously claimed subject matter. No new matter has been added by way of these amendments.

Oath/Declaration

Applicants submitted a new Oath/Declaration on December 10, 2010.

Rejection of Claims Under 35 U.S.C. § 103

Claims 1-3, 6, 8, and 9 were rejected under 35 U.S.C. 103(a) as allegedly obvious over Forler et al. (Mol Cell Biol., 24: 1155-1167 (2004) in view of Yokoyama et al (Nature, 376:184-188 (1995)), as evidenced by Shin et al., (Canc Lett, 287:231-239 (2010)); Yu et al., (EMBO J., 28:21-33 (2009)); Honegger et al., (J. Biol. Chem, 261: 596-575 (1986)); Zhou et al., Gyn Oncol., 101:305-310 (2006); Wetterau et al., Clin Endocrinol. Metab, 88:3354-3359 (2003), and Tao et al., (FEBS Lett, 454: 312-316 (1999)). Applicants respectfully traverse the rejections.

Applicants submit that the instant application claims priority to US provisional application 60/470,766, filed May 14, 2003. Applicants have amended the claims to recite methods of detecting SEQ ID NO: 1. Support for the claimed method is found in USSN 60/470,766 throughout the specification and particularly at, for example, pages 3-5, 23-36, 39,and 48. The Office

recognizes that 60/470766 discloses SEQ ID NO: 1 (Office Action, page 6). Applicants submit that the claimed methods are fully supported and should be accorded the priority date of May 13, 2003. Forler et al. was published in February 2004. Thus, Forler is not appropriate prior art for the instant application.

To meet the requirements for a *prima facie* case of obviousness, the Office must demonstrate that the cited references teach or suggest all the limitations of the claims. Post-KSR, the Board of Patent Appeals and Interferences (BPAI) has continued to maintain that

> [A]n examiner must make "a searching comparison of the claimed invention — *including all its limitations* - with the teaching of the prior art." *In re Ochiai,* 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis added). Thus, "obviousness requires a suggestion of all limitations in a claim." *CFMT, Inc. v. Yieldup Intern. Corp.,* 349 F.3d, 1333, 1342 (Fed. Cir. 2003) (citing *In re Royka,* 490 F.2d 981, 985 (CCPA 1974)). *Ex Parte* Wada, BPAI, Appeal 2007-377, page 7 (Jan. 15, 2008) (unpublished). *See also, Ex parte* Shepard, BPAI, Appeal 2008-0401, page 7 (Jan. 3, 2008)(unpublished).

Applicants submit that Yokoyama et al., fails to render the presently claimed methods obvious. Specifically, Yokoyama et al. fails to teach or suggest a method of identifying a candidate PTEN pathway modulating agent using a first assay system comprising an RANBP2 nucleic acid to determine a change in the expression of RANBP2 in the presence or absence of a test agent and a second assay system to determine a change in the PTEN pathway in the presence or absence of the test agent.

Yokoyama et al. reports the cloning and sequencing RANBP2 and characterizes some of its functional domains. Yokoyama concludes that RANBP2 is a constituent of the nuclear pore complex (NPC) involved in protein transport through the NPC. Although Yokoyama et al. describes RANBP2, it fails to recognize the connection between RANBP2 and the PTEN pathway. In fact, Yokoyama et al. makes no mention whatsoever of PTEN and therefore fails to even contemplate a method of identifying a candidate PTEN pathway modulating agent using an assay system that detects RANBP2

expression, much less teach or suggest the instantly claimed methods. In the absence of any teaching whatsoever relating to the association between RANBP2 and in the absence of any suggestion to screen for PTEN pathway modulators, Yokoyama et al. fails to teach or suggest a method of identifying a candidate PTEN pathway modulating agent having each of the following steps: (1) providing a first assay system capable of detecting the expression of RANBP2 comprising RANBP2 nucleic acid; (2) contacting the first assay system with a test agent; (3) determining a change in the expression of RANBP2 between the presence or absence of the test agent in the first assay system; (4) providing a second assay system capable of detecting a change in the PTEN pathway comprising cultured cells expressing RANBP2 nucleic acid; (5) contacting the second assay system with the test agent; and (6) determining a change in the PTEN pathway in the second assay system, wherein a change in the PTEN pathway between the presence or absence of the test agent confirms the test agent as a candidate PTEN pathway modulating agent.

None of the other cited references cure the deficiencies of Yokoyama et al. Shin et al. is post-filing art which was cited for its alleged teaching that the Hela cells of Yamamoto contain active IGF receptors. This supporting evidence provides no further teaching with respect to the association between RANBP2 and the PTEN pathway or the claimed method for identifying a PTEN modulating agent using a screening assay comprising RNABP2 nucleic acid. Yu et al. is post-filing art which was cited for its alleged teaching that the Hela cells of Yamamoto contain active PTEN. Like Shin et al., this supporting evidence provides no further teaching with respect to the association between RANBP2 and the PTEN pathway or the claimed screening assays for identifying a PTEN modulating agent. Honegger et al. was cited for its alleged teaching that fetal bovine serum, which is used to grow HeLa cells in culture, contains IGF-1. Again, this teaching sheds no light on the relationship between RANBP2 and the PTEN pathway or the claimed screening assays for identifying a PTEN modulating agent by determining RANBP2 expression.

None of the cited references, alone or in combination, teaches or suggests RANBP2 involvement in the PTEN pathway and they further fail to teach or suggest screening for a PTEN modulating agent, much less teach of suggest the claimed methods.

With respect to claim 3, the Examiner asserted the teachings of the references discussed above in combination with Tao et al. and Zhou et al. The Office alleged that Tao et al., teaches that HeLa cells overexpress telomerase, which is allegedly modulated by PTEN, as evidenced by Zhou et al., and IGF, as evidenced by Wetterau et al. None of these teachings cure the deficiencies of the combined teachings of Yokoyama et al., Shin et al., Yu et al., and Honegger et al. Neither Tao et al, Zhou et al., nor Wetterau et al. teach a relationship between RANBP2 and the PTEN pathway or provide a suggestion to screen for PTEN modulating agents, and consequently none of the references teach or suggest the claimed screening assays for identifying a PTEN modulating agent by determining RANBP2 expression.

In view of the fact that none of the cited references teach or suggest the claimed methods, they fail to render obvious the present invention. Accordingly, Applicants respectfully request withdrawal of the 35 USC 103 rejections based on Forler et al, Yokoyama et al., Shin et al., Yu et al, Honegger et al., Zhou et al., Wetterau et al., and Tao et al.

Claim 10 was rejected under 35 U.S.C. 103(a) as allegedly obvious over Forler et al. (Mol Cell Biol., 24: 1155-1167 (2004) and Yokoyama et al (Nature, 376:184-188 (1995)), as applied to claims 1, 2, 3, 6, 8, and 9 in further view of Sokoloff (US Patent No 7071163). Applicants respectfully traverse the rejection.

As previously stated, Forler is not appropriate prior art for the instant application. Applicants submit that the combined teachings of Yokoyama et al. and Sokoloff et al. do not render obvious the presently claimed methods. Yokoyama et al. fail to teach the instantly claimed methods for the reasons set forth above. Sokoloff et al fails to cure the deficiencies of Yokoyama et al.

Sokoloff et al. is directed to RNAi and antisense nucleic acids and makes no mention of RANBP2 or the PTEN pathway. Accordingly, the combined teachings of Yokoyama et al and Sokoloff et al. fail to teach the association between RANBP2 and the PTEN pathway or the claimed methods for identifying a PTEN modulating agent using a screening assay comprising RNABP2 nucleic acid.

In view of the fact that none of the cited references teach or suggest the claimed methods, they fail to render obvious the present invention. Accordingly, Applicants respectfully request withdrawal of the 35 USC 103 rejections based on Forler et al, Yokoyama et al., and Sokoloff et al.

Conclusion

In view of the foregoing amendments and remarks, the applicant submits that the claims are in condition for allowance, which is respectfully solicited. If the examiner believes a teleconference will advance prosecution, he is encouraged to contact the undersigned as indicated below.

Respectfully submitted,

Dated: February 21, 2011

/Anita J. Terpstra/

Anita J. Terpstra, Ph.D.
Registration No. 47,132

McDonnell, Boehnen, Hulbert & Berghoff LLP
300 S. Wacker Drive
Chicago, IL 60606
Tel. 312-913-0001